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ABSTRACT

Increasing student enrollment at a state university, the nature of the introductory speech course, the fact that it is required of nearly all students for graduation, and the strain on the administrative budget to employ additional teachers to accommodate the rapidly increasing numbers of students led to this study to devise ways to help solve this perplexity. The data on the records of nearly all the students who took Speech 1 in the first semester of 1967-68 formed the basis of this study. The focus of this project was upon the interrelationship of various variables and the grades earned in Speech 1. Two-way contingency tables and chi-square analyses were used to determine the nature of the interdependence of the variables in reference to grades earned in Speech 1. The total population analyzed was 709. It was concluded that, in general, 28% of the population studied may be selected for special processing. (CK)

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The Wisconsin State Universities Consortium of Research Development

Research Report

A STUDY OF THE EFFECTIVENESS OF SELECTED REGISTRATION DATA IN PREDICTING STUDENT SUCCESS IN THE BEGINNING SPEECH COURSE

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FINAL REPORT

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The author is especially grateful to Mr. Orie Klosterman, graduate student at Wisconsin State University-Stevens Point, for his substantive help in deriving meaning and significance from the gathered data.

INTRODUCTION

Rationale For This Study

There were many pressures which prompted this study at Wisconsin State University-Stevens Point. Among them were (and are) an ever-increasing student enrollment, the nature of the Introductory Speech Course (Speech 1), the fact that it is required of nearly all students for graduation, and the strain on the administrative budget to employ additional teachers to accommodate the rapidly increasing numbers of students. Ways had to be devised to help solve this seemingly insoluble perplexity.

As the all-university enrollment increased so did the numbers of students who had to take Speech 1. For each year and semester several hundred more students had to be serviced by the teaching faculty of the Department of Speech.*

The key bind was that not only were two semester hours of Speech 1 required, but that its very nature seemed to require small classes in sections of about twenty students each.

Speech 1 was basically a two semester hour course (some students exercized the option of taking it for three semester hours) with emphasis upon both theory and performance. The content of the course was such that each student was expected to make from five to eight speeches, both informative and persuasive, each one progressively increasing in length and degree of difficulty from 3-5 minutes to 8-10 minutes. In brief, Speech 1 emphasized this performance aspect. This fact in turn was the chief reason why the sections had to be held to about twenty to twenty-two maximally.

All in all, this meant that for each additional 120 freshmen the equivalent of one instructor had to be added.

This complexity was compounded when it became apparent that all entering freshmen could not immediately take Speech 1, but had to delay meeting this university requirement till later years. So, gradually an ever-increasing backlog was developing. Although Speech 1 was designed to be a freshman course in effective speaking, gradually more and more sophomores, juniors, and seniors were matriculating in it. The burden of accommodating all these

became heavier and heavier.

Dr. Fred R. Dowling and the author, both of the Department of Speech at WSU-Stevens Point, got together in a series of conversations out of which came the idea for this initial study. Dr. Dowling initiated the project, and the author became the chief investigator for this pilot study.

An added incentive for undertaking this project was that at WSU-Stevens Point no such inquiry had been made previously. There was no empirical basis or system from which to proceed, to begin some kind of selective registration and sectioning.

The combination of all these pressures and needs seemed sufficient motivation to do this research.

* * *

*A note of explanation should be added here by way of footnote. As of April, 1969, the Department of Speech became the Department of Communications at WSU-Stevens Point. Since this study was initiated under the previous title, and since Speech 1 was the name of the Introductory Speech Course when the study was made, the former titles are used here. Now, (1970) Speech 1 is called Communication 1.

Purpose of This Study

The overall purpose of this (hopefully) series of studies is to discover and organize data drawn from registration information which would permit the Department of Speech at WSU-Stevens Point to service the Speech 1 course in a more academically sound, and a more economical manner.

The main thrust of this particular study is to inquire into the effectiveness of selected registration data in predicting student success in the Beginning Speech Course, Speech 1.

In this inquiry, these were the questions posed:

What is the predictive value of High School Rank in graduating class?
" " " " " " ACT English scores?
ACT Accumulative scores?
High School forensic, debate, and/or both experience?
grades earned in High School Speech courses?
Academic Interest (or declared major)?

--all with regard to grades earned in College Speech 1.

Can such knowledge lead to the development of empirically sound and meaningful systems for advanced placement, exemption, or some kind of selective registration in Speech 1?

Methods of This Study

The data on the records of nearly all the students who took Speech 1 in the first semester of 1967-68 formed the basis of this study.

The appropriate information was gathered by the student personnel working in the Office of Institutional Research and Studies at WSU-Stevens Point under the guidance of the chief investigator and Dr. William H. Clements, Director of Research.

Since the focus of this project was upon the inter-relationship of various variables and the grades earned in Speech 1, the information gathered and tabulated consisted of High School Percentile Rank in graduating class, ACT English scores, ACT Accumulative scores, High School forensics and/or debate experience, speech grades earned in high school courses, and Academic Interest, as well as the grade earned in Speech 1, for each student.

Essentially, two-way contingency tables and Chi-square analyses were used to determine the nature of the interdependence of the variables in re grades earned in Speech 1. The results are expressed in terms of averages and percentages. Chi-square analysis was made to validate the interdependence of variables wherever applicable.

Several observations should be made about the population examined and its characteristics.

The total population analyzed in this study was 709. The students were taught Speech 1 by thirteen instructors. The grades of one instructor were excluded, however, since they were deemed to be non-discriminating: all the students in four sections received an A or B in Speech 1. So, the 709 students in this study were taught by twelve teachers, in sections averaging twenty each.

Each student, it may be stated, received a reasonably equal exposure to Speech 1. Although each instructor had considerable latitude as to the way in which he or she conducted the course, there was a common core of agreement among the faculty as to what the context and methods of Speech 1 were, of what was expected from each student by way of theory and performance. Generally, it may be said that each student made five to eight speeches (informative and persuasive) of a person-to-group nature. The speeches ranged from 3-5 minutes to 8-10 minutes in each section. Speech 1

in brief, was a basic effective speaking, or elementary public speaking course.

A comment should be made about the total number of 709. In the analysis of the data in the next section, it may be noted that sometimes there is a variance in the total figure (up to 7). There are several reasons for this. Sometimes the specific information for a certain student was not all available for those computations. Then, also, sometimes the W's (Withdrawals) and I's (Incompletes) are included in the raw data. The author was aware of these minor variances. Therefore, in all the analyses, computations, and interpretations this was taken into account.

In any case, the variances are so small that they are negligible where the central tendencies and the interdependencies discovered are concerned.

ANALYSIS AND DISCUSSION OF FINDINGS

This section of the report is organized in four parts: Part 1, the predictive value of High School Percent Rank, ACT English scores, and ACT Accumulative scores in re grade earned in college Speech 1; Part 2, the predictive value of High School forensics, debate, and/or both experience in re success in Speech 1; Part 3, the predictive value of High School Speech Grades in re grades earned in Speech 1; Part 4, the predictive value of Academic Interest (declared major) in re success in college Speech 1.

Part 1

What is the effectiveness of High School Percentile Rank, ACT English and ACT Accumulative scores in predicting success in Speech 1? A two-way contingency table was made for each of these variables and their interdependence with the Speech 1 grade was examined.

Table I shows the inter-relationship between High School Percentile Rank in graduating class and Speech 1 grade earned. Several conclusions seem to be warranted.

Of the students in this study it may be said that 85% in the 90-99 decile received A or B in Speech 1; 71.4% in the 80-99 deciles received A or B; 64.1% in the 70-99 deciles received A or B in Speech 1.

It may be concluded that High School Percentile Rank is a significant factor in predicting success in Speech 1. It may be predicted that as far as High School Percentile Rank is concerned, that 85% in the 90-99 decile will get an A or B in Speech 1, 71.4% in the 80-99 deciles will get A or B, and that 64.1% in the 70-99 deciles will get an A or B in Speech 1.

A Chi-square analysis was made of the nature of the interdependence of these two variables. It may be concluded that the x^2 value was 110.25. This value indicates that the chance of this table happening between two unrelated variables is 1 in 100, and that the High School Percentile Rank and Speech 1 grades are definitely related.

It may reasonably safely be said that the predictability value of this inter-relationship is true and valid on future populations. The percentages

expressed above may be used with a high degree of confidence.

Table II reveals the nature of the interdependence of ACT English scores and grades earned in Speech 1.

An examination of these data warrant the conclusion that ACT English scores are strongly predictive of success in Speech 1. It may be said that 91.6% in the 90-99 decile will earn an A or B in Speech 1, 72.3% in the 80-99 deciles will get A or B, and that 65.3% in the 70-99 deciles will earn an A or B in Speech 1.

It seems that the ACT English score is a bit better than High School Percent Rank as a significant predictive factor of success in Speech 1. It discriminates in a more pronounced way.

A Chi-square analysis was made of the inter-relationships of Speech 1 grades and ACT English scores.

It may be concluded that the x^2 value was 67.8. Here again, this value indicates that the chance of this table happening between two unrelated variables is 1 in 100, and that Speech 1 grades and ACT English scores are strongly related.

The predictive values of this interdependence of these two variables is highly certain. The percentages exposed above may be used with a high degree of confidence.

Table III focuses on the inter-relationship of ACT Accumulative scores and grades earned in Speech 1.

An analysis of the nature of the interdependence of these two variables leads to these predictive conclusions.

It may be said that 72% in the 90-99 decile will earn an A or B in Speech 1, 65.8% in the 80-99 deciles will get A or B, and that 62.7% in the 70-99 deciles will earn an A or B in Speech 1.

The scatter of the ACT Accumulative scores should be noted. This factor may be construed as being less predictive of success in Speech 1 than are either High School Percent Rank or ACT English scores. The ACT Accumulative score may be more predictive of overall college success, but not so sharply of success in Speech 1.

A Chi-square analysis of the interdependence of Speech 1 grades and ACT Accumulative scores yielded a x^2 value of 63.07. Here again, the chance of this table happening between two unrelated variables is 1 in 100, and it may be concluded that these two variables are highly correlated.

For predicting disposition of future populations, the percentages expressed above may be used with a high degree of confidence.

Caution: Some of these cells are so small that the Chi-squared values may be exaggerated. However, it is reasonable to assume that chances of getting these tables if there were no relationship between the variables would be 5 of 100.

The predictive effectiveness of these variables may be summed up as follows:

Of the students who had scores in the 90-99 decile of High School Percentile Rank, ACT English, and ACT Accumulative 85%, 91.6%, and 72% will earn an A or B in Speech 1.

Of the students who had scores in the 80-89 deciles in High School Percent Rank, ACT English, and ACT Accumulative, 71.4%, 72.3%, and 65.8% will earn an A or B in Speech 1.

Of the students who had scores in the 70-99 deciles in High School Rank, ACT English, and ACT Accumulative, 64.1%, 65.3%, and 62.7% will earn an A or B in Speech 1.

Chi-square analyses of the interdependence of each of these variables, High School Percent rank, ACT English, and ACT Accumulative, with grade in Speech 1, yielded x^2 values of 110.25, 67.83, and 63.07, respectively. In each case, the results reinforce the validity of strong interdependence.

TABLE I

Speech 1 Grade vs. H. S. % Rank

Grade For Speech 1

H.S.	A		B		C		D & F		Total
Rank	No. of Cases	% of Total	No. of Cases	% of Total	No. of Cases	% of Total	No. of Cases	% of Total	
90-99	19	19.0	66	66.0	14	14.0	1	1.0	100
80-89	13	9.6	70	51.9	50	37.0	2	1.5	135
70-79	6	4.8	57	45.6	60	48.0	2	1.6	125
60-69	3	3.2	33	35.5	54	58.1	3	3.2	93
50-59	4	5.5	26	35.6	37	50.7	6	8.2	73
40-49	1	1.4	25	34.2	41	56.2	6	8.2	73
30-39	4	7.8	14	27.5	27	52.9	6	11.8	51
20-29	1	3.0	8	24.2	17	51.5	7	21.2	33
10-19	0	0	7	43.8	9	56.2	0	0	16
0-9	0	0	0	0	0	0	0	0	0
Total	51		306		309		33		699

$x^2 = 110.25$

TABLE II

Speech 1 Grade vs. ACT English Rank

ACT	A		B		C		D & F		Total
English Rank	No. of Cases	% of Total	No. of Cases	% of Total	No. of Cases	% of Total	No. of Cases	% of Total	
90-99	7	19.4	26	72.2	3	8.3	0	0.0	36
80-89	14	16.1	42	48.3	27	31.0	4	4.6	87
70-79	7	6.3	57	51.4	45	40.5	2	1.8	111
60-69	5	6.3	31	39.2	37	46.8	6	7.6	79
50-59	2	2.3	35	39.8	49	55.7	2	2.3	88
40-49	5	6.3	35	43.8	33	47.5	2	2.5	80
30-39	6	6.1	35	35.7	49	50.0	8	8.2	98
20-29	0	0.0	14	40.0	17	48.6	4	11.4	35
10-19	2	4.4	13	28.9	27	60.0	3	6.7	45
0-9	1	4.2	9	37.5	13	54.2	1	4.2	24
Total	49		297		305		32		683

$x^2 = 67.83$

TABLE III

Speech 1 Grade vs. ACT Accum. Ranking

ACT Cumulative	Grade A		Grade B		Grade C		Grade D & F		Total
Rank	No. of Cases	% of Total	No. of Cases	% of Total	No. of Cases	% of Total	No. of Cases	% of Total	
90-99	12	21.1	29	50.9	14	24.6	2	3.5	57
80-89	6	6.1	56	57.1	32	32.7	4	4.1	98
70-79	7	5.3	20	38.5	24	46.2	1	1.9	52
60-69	10	7.6	70	53.4	44	33.6	7	5.3	131
50-59	5	6.6	24	31.6	45	59.2	2	2.6	76
40-49	1	2.2	20	44.4	22	48.9	2	4.4	45
30-39	5	4.6	43	39.4	54	49.5	7	6.4	109
20-29	2	2.9	22	31.4	41	58.6	5	7.1	70
10-19	0	0.0	8	30.8	17	65.4	1	3.8	26
0-9	1	7.1	5	35.7	7	50.0	1	7.1	14
Total	49		297		300		32		678

$x^2 = 63.07$

Another way of looking at these variables (High School Percent Rank, ACT English, and ACT Accumulative in re Speech 1 grades) is to cast the raw data into quartiles, ranges, and deciles.

This kind of a breakdown provides re-inforcement that High School Percent Rank, ACT English scores, and ACT Accumulative scores have predictive value as far as success in Speech 1 is concerned.

For each variable under examination, the Average Grade Point earned in Speech 1 was computed, for each quartile, etc. The results are summed up in Tables IV, V, and VI.

A perusal of each table reveals that there is a significant correlation between the variable and Speech 1 GPR. The trend goes from the lowest quartile to the top decile. The Speech 1 GPR increases as the scores in High School Percentile Rank, ACT English, and ACT Accumulative scores increase.

TABLE IV

H. S. % Rank and G.P.R. in Speech 1

H.S. Rank	G.P.R. in Speech 1
0-25	2.15
25-50	2.26
50-75	2.38
75-90	2.66
90-100	3.02

TABLE V

ACT English and G.P.R. in Speech 1

ACT English	G.P.R. in Speech 1
0-25	2.36
25-50	2.43
50-75	2.48
75-90	2.48
90-100	3.11

TABLE VI

ACT Accum. and G.P.R. in Speech 1

ACT Accum.	G.P.R. in Speech 1
0-25	2.35
25-50	2.38
50-75	2.52
75-90	2.60
90-100	2.83

It is note-worthy that the Speech 1 GPR in the top decile for the respective variables are 3.02, 3.11, and 2.83.

These results echo the analysis and interpretation of the effectiveness of High School Percent Rank, ACT English, and ACT Accumulative scores in predicting success in Speech 1 already described above.

All in all, High School Percent Rank, ACT English, and ACT Accumulative scores may be used as predictors. They are effective in prophesying success in Speech 1.

For example, if a student is in the top two deciles (80-99) in all three of these categories, then such a student may safely be placed in a special treatment group; he may be exempted, put into an accelerated class, advanced, or handled in some form of selective registration and sectioning.

Certainly, students in the top deciles in each of these variables deserve handling educationally.

It all depends on what is looked for in student potential, and what is expected as to what kind of special handling is indicated. Some guidance has been provided by the results of this portion of the study.

As far as the group of 709 analyzed in this study is concerned, this means that between 100 and 150 students or 14 to 21% may be indicated for special handling (that is, if this population is representative of future such groups). This figure is suggested from an extrapolation of the numbers of students in the 80-99 deciles of High School Rank (168), ACT English scores (89), and ACT Accumulative scores (93).

PART II

Of what effectiveness is participation in high school debate, forensics, and/or both in predicting success in Speech 1?

To answer this question those students who indicated such experiences on the registration data were looked at in three ways: first, in the aggregate, (such experiences in relationship to grades earned in Speech 1); second, in terms of forensic experience alone (not only in re Speech 1 grade but also in re High School Percentile Rank, ACT English, and ACT Accum.); and third, in terms of debate experience alone (also in re Speech 1 grade and High School Percentile Rank, ACT English, and ACT Accum. scores).

These data did not indicate whether these high school experiences were curricular, co-, or extra-curricular. For the purpose of this study, this factor may not be significant.

Table VII shows the interrelationship of high school debate, forensic, and/or both experiences and grades earned in Speech 1.

Analysis of these data in the aggregate indicate several conclusions. Of the total population of 709, 168 or 23.6% had had such participation.

Now what of the interdependency of the two variables considered here? 55.7% of those who received an A in Speech 1 had been involved in high school forensics, debate, or both. 28.7% of those who earned B in Speech 1 had had such experience, and only 14.1% of those who get C had had such participation.

It seems to be significant that of this high school experienced group, it may be said that 71.7% earned an A or B in Speech 1.

Hence, it may be concluded that high school participation in forensics, debate, and/or both has predictive value.

What of forensics alone as a predictive factor?

An analysis was made of the students who had had high school forensics alone in relationship to grades earned in Speech 1. Not only this but also the nature of the interdependencies of High School Percentile Rank, ACT English, and ACT Accum. scores were cross-compared.

Of the total population of 709, 125 students had had high school forensic experience (or 17.6%). This information was put into the form of Tables VIII, IX, and X. Each set of inter-relationships is examined in turn.

An analysis of students who had high school forensic experience and earned an A in Speech 1 (Table VIII) yields this pertinent information: as far as High School Percentile Rank is concerned, 57.3% were in the 80-99 deciles, and 36.3% were in the 90-99 decile; in ACT English, 52.6% were in the 80-99 decile, and 10.5% were in the 90-99 decile; and in ACT Accum. 36.3% were in the 80-99 percentiles, and 26.3% were in the top decile.

Of the students with high school forensic experience who earned a B in Speech 1 (Table IX) these observations may be made: as far as High School Percentile Rank is concerned, 53.0% were in the 80-99 deciles, and 27.2% were in the 90-99 decile; in ACT English, 25.7% were in the top two deciles, and 10.6% were in the top decile; and in ACT Accum., 24.2% were in the 80-99 deciles, and 10.6% were in the top percentile. The great scatter of the scores should be noted here.

Of these high school forensic-experienced people who earned a C in Speech 1 (Table X) this may be said: in High School Percentile Rank, 22.5% were in the 80-99 bracket, and 5% were in the 90-99 deciles; and in ACT English, 12.5% were in the 80-99 deciles, and 0% were in the top decile. It may be that there is too great a scatter of scores in each of these variables for this to be predictive in any way.

What all this data may reveal is that students who participated in high school forensics are not all top quality students as far as their High School Percentile Rank, ACT English, and ACT Accum. are concerned.

But an inter-relationship does exist between forensic experience and grade earned in Speech 1.

Students who received an A in Speech 1 tended to score higher in High School Percentile Rank, ACT English, and ACT Accum., whereas the scores of the students who got B and C in Speech 1 tended to be more and more scattered. The higher the Speech 1 grade the higher the High School Percentile Rank, the ACT English and ACT Accum. scores.

Forensic experience alone is of some value as a predictor of success in Speech 1. There apparently are other variables operating which are not taken into account; such factors as motivation, interest in oral communication, some unique capacity, attitude, etc.

Such a conclusion seems also to be warranted by the following comparisons: of those who got an A or B in Speech 1 and those who had forensics, 54.1% were in the 80-99 percentile range of their High School Percentile Rank, whereas the total population (of forensics and non-forensics) 71.4% were in the 80-99 deciles.

Similarly, of the people who got an A or B in Speech 1 and had taken forensics, 32.5% were in the 80-99 percentile of ACT English tests, whereas of the total population 72.3% were in the 80-99 percentiles.

In like trend, of those people who received A or B in Speech 1 and had forensics, 27.7% were in the 80-99 percentile of the ACT Accum. tests, whereas of the total population 65.8% ranked in the 80-99 percentile.

The lower scores in High School Percentile Rank, ACT English, and ACT Accum. of the students who had had forensics but received an A or B in Speech 1 may show that this experience has benefited some students. Therefore, forensics may be of some predictive value as far as success in Speech 1 is concerned, despite lower test scores.

This should be borne in mind especially with border-line cases. That is, many students who do not have scores in the upper two deciles, but have had forensic experience may be placed in the special handling group.

TABLE VII

Students With H. S. Forensics And/Or
Debate Experience In Re Speech 1 Grades

H.S. Forensics	Debate	Debate & Forensics		Total Sp. 1 Grades
19 A's	5 A's	5 A's	29	52
66 B's	14 B's	8 B's	88	306
40 C's	4 C's	1 C	45	318
0	1 D or F	0	1	33
				709

TABLE VIII

Forensics In H.S. And Receiving "A" In Speech 1

	H.S. %	ACT Eng.	ACT Accum.
0-9%			
10-		1	
20-			1
30-	2	2	3
40-	1	2	
50-	1	1	
60-		2	3
70-	4		4
80-	4	8	2
90-	7	2	5

TABLE IX

Forensics And "B" In Speech 1

	H.S. %	ACT Eng.	ACT Accum.
0-9%		3	1
10-		3	1
20-		1	6
30-	2	5	8
40-	5	9	6
50-	7	7	6
60-	5	10	15
70-	12	10	6
80-	17	10	9
90-	18	7	7

TABLE X

Forensics And "C" In Speech 1

	H.S. %	ACT Eng.	ACT Accum.
0-9%		1	
10-		2	5
20-	1	2	4
30-	6	5	3
40-		5	2
50-	4	4	11
60-	14	5	8
70-	6	11	2
80-	7	5	4
90-	2		1

What of high sch . debate alone as a predictive factor of success in Speech 1?

The same kind of procedure was used for this group as that used for the high school forensics-experienced people to derive meaning from the material. These data are arrayed in Tables XI, XII, and XIII.

First off, it should be noted that there are only 23 students who had had high school debate experience of the total population of 709 (only 3.2%). It may be that this portion of the study is only indicative, not too conclusive at best.

A perusal of the Tables shows a rather great dispersion of the High School Percentile Rank, ACT English, and ACT Accum. scores, from the lower percentiles upward for these individuals. Nevertheless, certain observations may be made.

Of the high school debate experienced students who earned an A in Speech 1, (Table XI), as far as High School Percentile Rank is concerned 60% were in the 80-99 deciles, and 20% were in the 90-99 bracket; in ACT English, 40% were in the 80-99 bracket, and 0% were in the top decile; and in ACT Accum., 20% were in the top two deciles, and 20% were in the 90-99 decile.

Of this group, those who earned B in Speech 1, (Table XII), as far as High School Percentile Rank was concerned, 50% were in the 80-99 deciles, and 21.4% were in the 90-99 deciles; in ACT English, 21.4% were in the 80-99 bracket, and 71.1% were in the 90-99 decile, and in ACT Accum. 28.5% were in the 80-99 deciles, and 0% were in the top decile.

Of this group, those who earned C in Speech 1, (Table XIII), as far as High School Percentile Rank goes, 50% were in the 80-99 deciles, and 25% were in the 90-99 decile; and in both ACT English and ACT Accum. 0% were in the top two deciles.

It may be noteworthy that none of these high school debate experienced individuals received a D or F in Speech 1.

Observations similar to those made of the forensics-experienced group are indicated here.

Of those who got an A or B in Speech 1 and had had debate in high school 52.6% were in the upper two deciles of High School Percentile Rank, whereas in the total population 71.4% were in the 80-99 deciles.

Of those who earned an A or B in Speech 1 and had debate in high school, 26.3% were in the upper two deciles of ACT English, whereas in the total population 72.3% were in the 80-99 deciles.

In the ACT Accum. of those who got A or B in Speech 1 and were in debate, 26.3% were in the upper two deciles, whereas in the total population 65.8% ranked in the top two deciles.

The same phenomenon of tendency is reflected here as was shown by the forensics experienced people. This is a small group under analysis. Nevertheless, debate experience alone seems to be of some predictive value: the lower scores in High School Percentile Rank, ACT English, and ACT Accum. of many students who had had debate in high school but received an A or B in Speech 1 may show that debate has benefited some students. So, despite lower scores in these variables debate may not be discounted as a factor.

Some tentative conclusions relative to both the high school forensics alone and high school debate alone people may be drawn.

Of these students a smaller percentage were in the upper two deciles as compared with the total population.

Since a larger percentage of these individuals were in the lower percentiles in the High School Percentile Rank, ACT English, and ACT Accum. than those in the total population, one may say that those in forensics or debate and received an A or B in Speech 1 did so despite those lower ratings.

This may mean that neither forensics nor debate experience in high school may be over-looked despite lower scores in the three variables. Experience in forensics and debate seems to have made up for the lower scores in the other academic endeavors.

By way of an ultimate conclusion in answer to the query as to what is the predictive value of high school forensics, debate, and/or both relative to grades earned in Speech 1, the results of the aggregate data (see analysis of Table VII) must be repeated: 71.7% of students who had had this kind of high school experience earned A or B in Speech 1. Therefore, if these findings are representative, then it may be predicted that 71.7% of similarly experienced students will earn an A or B in Speech 1 in the future. Apparently, this may be so despite the lower ratings of these students in High School Percentile Rank, ACT English, and ACT Accum. scores.

These factors should be remembered when students are being placed in a special handling category. High School Percentile Rank, ACT English, and ACT Accum. scores, although strongly predictive of success in Speech 1, do not tell the whole story about an individual.

TABLE XI

Debate In H.S. And Grade Of "A" - Speech 1

	H.S. %	ACT Eng.	ACT Accum.
0-9%			
10-			
20-			
30-			
40-	1	1	
50-		1	
60-		1	1
70-	1		3
80-	2	2	
90-	1		1

TABLE XII

Debate In H.S. And Grade "B" Of Speech 1

	H.S. %	ACT Eng.	ACT Accum.
0-9%			
10-		1	
20-			1
30-		1	1
40-		1	2
50-	1	2	
60-	1	3	4
70-	5	3	2
80-	4	2	4
90-	3	1	

TABLE XIII

Debate In H.S. And Grade "C" - Speech 1

	H.S. %	ACT Eng.	ACT Accum.
0-9%			
10-			1
20-			
30-		1	
40-			
50-			1
60-	1	2	
70-	1	1	2
80-	1		
90-	1		

"D - F"

None

PART III

Is high school speech grade predictive of success in college Speech 1?

To answer this question two approaches were taken in this study. One was a broad-gauged approach: to examine the interdependence of high school speech grade earned in one to four semesters and grade earned in Speech 1; whereas the other approach was finer: it was limited to an examination of the relationship of grade earned in one semester of high school speech and grade received in Speech 1.

Is the high school speech grade earned in one, two, three or four semesters predictive of success in Speech 1?

There is a definite relationship between grades earned in high school speech and grades earned in college Speech 1. The higher the average high school speech grade, the higher the grade in Speech 1. This conclusion is strongly suggested by the data assembled for this purpose. The high school speech grades, the number of semesters, and grades earned in Speech 1 for the 310 students of the total population of 709 (or 43.7%) were appropriately put together in Tables XIV, XV, XVI, and XVII so that the inter-relationships could be studied.

Of those who received A in Speech 1 and had had one or two semesters of high school speech (Table XIV), their average high school speech grade was 3.36. Of those who earned B in Speech 1 (Table XV), and had had high school speech for one or two semesters, their average high school speech grade was 3.02. Of those who received C in Speech 1 (Table XVI) and had taken high school speech (one to four semesters), their average high school speech grade was 2.83. Of those who got D or F in Speech 1 (Table XVII) with the prior experience of one or two semesters of high school speech, their average high school speech grade was 2.53.

Another way of looking at these data is this: of those who received A in Speech 1, 52.0% (27 of 52 in the total population) had taken one or two semesters of high school speech. Of those who received B in Speech 1, 46.0% (141 of 306) had taken high school speech (one or two semesters). Of those who received C in Speech 1, 39.7% (127 of 318) had taken high school speech (one to four semesters). For some reason, of those who received D or F in Speech 1, 45.7% (15 of 33) had had high school speech (one or two semesters).

Does one semester or two semesters of high school speech make a difference in predicting success in Speech 1?

Of the students who had <u>one semester</u> of high school speech there were 187, or 26.5% of the total population of 709. Of the students who had <u>two semesters</u> of high school speech there were 120, or 16.9% of the total group studied. Of those who had <u>one semester</u> of high school speech: 9% had A in Speech 1; 46.5% had B in Speech 1; 40.1% had C in Speech 1; 4.4% had D or F in Speech 1. Of those who had <u>two semesters</u> of high school speech: 8.4% had A in Speech 1; 45.0% had B in Speech 1; 40.8% had C in Speech 1; 5.8% had D or F in Speech 1.

On the basis of these data one may conclude that it seems not to make any significant difference as to whether a student had <u>one</u> or <u>two</u> semesters of high school speech. Therefore, there seems to be no predictive value here.

As far as the predictive effectiveness of three or four semesters of high school speech is concerned, there is not enough data here. Only two students had three semesters (1 A and 1 B), but earned C in Speech 1. And only one student had four semesters of high school speech but received C in Speech 1. How to account for this? Who knows? Nevertheless, A's and B's in high school speech courses (one <u>or</u> two semesters) foreshadow A's and B's in Speech 1.

TABLE XIV

Total = 52

Students With "A" In Speech 1 And Taken High School Speech Before

H.S. Speech Grade	1 Sem.	2 Sem.	3 Sem.	4 Sem.
A	10	5		
B	4	3		
C	3	2		
D				
F				

Total = 27 H.S. Speech

Av. 3.412 3.3

Av. 3.36

TABLE XV

Total = 306

Students With "B" In Speech 1

And Taken H.S. Speech

H.S. Speech Grade	1 Sem.	2 Sem.	3 Sem.	4 Sem.
A	25	12		
B	47	26		
C	14	14		
D	1	2		Total = 141
F				H.S. Speech
	Av. 3.103	2.889		
		Av. 3.02		

TABLE XVI

Total = 318

Students With "C" In Speech 1

And Taken High School Speech

H.S. Grade	1 Sem.	2 Sem.	3 Sem.	4 Sem.
A	8	6	1	
B	42	30	1	1
C	22	12		
D	2			Total = 127
F	1	1		H.S. Speech
	Av. 2.72	2.816		

TABLE XVII

Total = 33

Students With D or F In Speech 1

And Taken H.S. Speech

H.S. Grade	1 Sem.	2 Sem.	3 Sem.	4 Sem.
A				
B	6	5		
C		1		
D	2	1		Total = 15
F				H.S. Speech
	Av. 2.5	2.571		

What relationship exists between the high school speech grade earned in one semester and grade in Speech 1?

There were 196 students who had had one semester of high school speech, or 27.6% of the total population of 709. The raw data is capsulized in the following table (Table XVIII). It may be concluded that there is a definite correlation between the grade earned in one semester of high school speech and grade earned in Speech 1.

TABLE XVIII

Comparison Of H. S. Speech Grade With
College Speech 1 Grade - 1 Semester Of H. S. Speech

		High School Grade							
		A		B		C		D or F	
		No.	%	No.	%	No.	%	No.	%
Grade in Speech 1	A	10	23.2	4	4.0	3	7.7	0	----
	B	25	58.2	47	47.5	14	35.9	1	16.7
	C	8	18.6	42	42.5	22	56.4	3	50.0
	D	0	----	4	4.0	0	----	1	16.7
	F	0	----	2	2.0	0	----	1	16.7
	Total	43	100%	99	100%	39	100%	6	100%

$x^2 = 26.5446$

The higher the high school speech grade earned in one semester, the higher the Speech 1 grade was the general tendency.

Of the 43 students who earned an A in high school speech, 81.4% got A or B in Speech 1. Of the 99 students who earned a B in high school speech, 51.5% got A or B in Speech 1. Of the 39 students who earned a C in high school speech, 47.4% got A or B in Speech 1. Of the 6 students who earned a D or F in high school speech, 16.7% got A or B in Speech 1.

What this means is that a person who got a D or F in high school speech has about one-fifth the chance of getting an A or B in Speech 1 as a person who had an A in high school speech.

The predictive value of one semester of high school speech and high grade earned seems to be clear. Even those students who received a B or C in high school speech seem to have about a 50-50 chance of getting an A or B in Speech 1. If, however, a person earned an A in one semester of high school speech, his chances seem to be 81.4% of getting an A or B in Speech 1.

A Chi-square analysis made of the interdependence of these two variables yielded a x^2 value of 26.54. This indicates that the chances of this table happening without any inter-relationship between the two variables is 1 to 100. A note of caution should be made: some of these cells are so small that the Chi-squared values may be exaggerated. However, it is reasonable to assume that the Chi-squared value would be significant at the 5% level even if such small cells were eliminated.

This may be construed as meaning that even though high school speech grade is predictive of success in Speech 1, it is not as strongly indicative as are the other variables analyzed, High School Percentile Rank, ACT English, and ACT Accum. scores. Even so, the grade earned in one semester of high school speech has predictive value. This factor should be taken into account when students are being selected for special processing.

Over-all conclusion

What is the interdependence of high school speech grades and grades earned in Speech 1?

A definite relationship has been demonstrated. The higher the average high school speech grade, the higher the grade in Speech 1. This conclusion seems to be particularly true of those who had experienced one semester of high school speech.

As far as this study is concerned, no significant difference was found in the length of experience, that is, both one semester and two semesters of high school speech seemed to be approximately equal in predictive value.

Generally, it may be concluded that if a student earned an A in one semester of high school speech, his chances seem to be 81.4% of getting an A or B in Speech 1. Even those students who received a B or C in high school speech seem to have a 50% chance of earning an A or B in Speech 1.

The grade earned in high school speech (one semester) may not be as strongly predictive of success in Speech 1 as the other variables examined. High School Percentile Rank, ACT English, and ACT Accum. scores were demonstrated to be, but it is a factor which may not be disconnected.

The exact nature of the high school speech course or courses taken was not known, not specified in the registration data. This may be a factor for future recording. It may be of significance to know whether a student took a high school speech course which stressed speech-making or drama or oral interpretation, or a combination. The kind of speech course taken in high school may be of finer predictive value.

PART IV

What of Academic Interest as predictive of success in Speech 1?

Another facet of this study was to determine whether or not Academic Interest (or declared major) was of predictive value. The data was gathered and put into the shape of Table XIX.

An analysis of this information seems to be non-productive as it stands. No central tendencies may be discerned. This may be because this total population of 709 is too small for this purpose. Studies in the future perhaps should be made--of much larger populations.

TABLE XIX

ACADEMIC INTEREST AND SPEECH 1 GRADE: COMPARISON

	A	B	C	D	F	W	I	TOTAL	AV. GPA IN SPEECH 1
Architecture	0	1	1	0	0	0	0	2	2.500
Art	1	6	7	1	0	0	0	15	2.467
Biology	2	18	4	1	2	0	0	27	2.630
Business Administration	3	21	31	1	1	4	0	61	2.421
Business Education	0	9	8	0	0	3	0	20	2.529
Chemistry	1	8	7	2	2	0	0	20	2.200
Conservation	4	12	28	3	0	3	0	50	2.362
Economics	0	0	3	1	0	0	0	4	1.750
Engineering	0	1	1	0	0	0	0	2	2.500
English	1	18	14	0	0	2	0	35	2.606
Journalism	0	2	3	0	0	0	0	5	2.400
Spanish	0	1	0	0	0	0	0	1	3.000
French	0	1	0	0	0	0	0	1	3.000
General Science	0	1	0	0	0	0	0	1	3.000
Geography	0	1	0	0	0	0	0	1	3.000
German	0	0	0	1	0	0	0	1	1.000
History	1	9	6	1	0	1	0	18	2.588
Home Economics	7	24	19	0	0	1	0	51	2.760
Elementary Education	9	61	51	4	0	3	1	129	2.600
Math	3	11	12	0	0	0	0	26	2.654
Medical Technology	0	5	1	0	0	0	0	6	2.833
Music	1	3	9	1	1	0	0	15	2.133
Drama	1	2	3	0	0	1	0	7	2.667
Accounting	0	1	3	0	0	0	0	4	2.250
Dentistry	0	4	1	0	0	0	0	5	2.800
Physics	0	1	1	0	0	0	0	2	2.500
Political Science	3	6	6	0	0	0	0	15	2.800
Psychology	1	4	3	0	0	0	0	8	2.750
Forestry	0	2	5	0	0	0	0	7	2.286
Sociology	6	14	15	0	2	4	1	42	2.955

TABLE XIX--Continued

	A	B	C	D	F	W	I	TOTAL	AV. GPA IN SPEECH 1
Physical Education	2	5	13	1	1	1	0	23	2.273
Speech	2	2	0	0	0	0	0	4	3.500
Speech Pathology	0	8	6	0	2	0	0	16	2.250
Law	0	0	1	0	0	0	0	1	2.000
Medicine	0	3	4	0	0	0	0	7	2.249
Nursing	1	1	3	0	0	0	0	5	2.600
Veterinary Science	0	0	1	1	0	0	0	2	1.500
Undecided	3	40	48	1	2	2	0	96	2.436
Agriculture	0	0	0	1	0	0	0	1	1.000

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The main function of this study was to inquire into the effectiveness of selected registration data in predicting student success in the beginning speech course at WSU-Stevens Point--college Speech 1.

The records of 709 students taking Speech 1 in the first semester of 1967-68 were accumulated and analyzed in an attempt to find the relationship of several variables including: 1. High School Rank in graduating class; 2. ACT English scores; 3. ACT Accumulative score; 4. High school forensic and/or debate experience; 5. Grades earned in high school speech courses; and, 6. Academic Interests, to eventual success in the Speech 1 course.

An analysis and interpretation of the findings of this study indicate that all variables were examined, but Academic Interests have predictive value.

The following statements may be made with a high degree of valid probability. The results should be applicable to future populations of this kind at WSU-Stevens Point and elsewhere.

* * *

The predictive effectiveness of High School Percentile Rank, ACT English, and ACT Accumulation scores may be summed up as follows: Of the students who had scores in the 90-99 decile in these three variables, 85%, 91.6% and 72%, respectively, will earn an A or B in Speech 1. Of the students who had scores in the 80-99 deciles, 71.4%, 72.3%, and 65.8% will earn an A or B in Speech 1. Of the students ranked in the 70-99 deciles in these three variables, 64.1%, 65.3%, and 62.7% will earn an A or B in Speech 1.

To corroborate these results it was found that the Speech 1 Grade Point Average increased as the scores in these three variables increased. The Speech 1 G. P. A. in the top decile for each variable was 3.02, 3.11, and 2.83.

All in all, High School Percentile Rank, ACT English, and ACT Accumulative scores may be used as predictors of success in Speech 1.

Students who are in the top two deciles (80-99) in all three of these categories may be safely placed in a special treatment group; they may be exempted, put into our accelerated class, advanced, or treated in some form of selective registration and sectioning.

Certainly, students in the top deciles in each of these variables deserve special handling educationally.

It all depends on what is looked for in student potential, and what is expected, as to what kind of treatment is indicated. Some guidance has been provided by this portion of the study.

If this group of 709 is representative of future such populations, this may mean that between 100 and 150 students (or 14 to 21%) may be indicated for special handling. This figure is suggested from an extrapolation of the numbers of students in the 80-99 deciles of High School Rank (168), ACT English scores (89), and ACT Accumulative scores (93). Hence, whatever the numbers of a future enrollment may be, 14 to 21% may be marked for selective treatment.

* * *

The predictive effectiveness of participation in high school debate, forensics, and/or both may be summed up as follows: In the aggregate, it may be predicted that 71.7% of the students who have had high school experience in forensics, debate, and/or both will earn an A or B in Speech 1, despite lower ratings in High School Rank, ACT English, and ACT Accumulative scores.

This same prediction seems to hold for students who have had high school debate alone or forensics alone.

Neither forensics nor debate experience may be over-looked as significant prognosticators of success in Speech 1, despite lower ratings in the other three variables. Such experience seems to have made up for the lower scores. There apparently are other factors operating which are not taken into account, such as motivation, interest in oral communication, some unique capacity, attitude, and/or what the student has gained from such experiences.

All this should be borne in mind when students are being designated for special handling sections. This may be especially true of "borderline" cases, that is, students who do not have scores in the upper two deciles of High School Rank, ACT English, and ACT Accumulative, but have had forensics and/or debate experience may be placed in a special handling group. Those three variables, although strongly predictive of success in Speech 1, may not tell the whole story about an individual.

Since in this portion of the study, 168 or 23.6% of the total population of 709 had had such participation in high school, and since it has been suggested that 71.7% of such experienced students will earn an A or B in Speech 1, then the number of students ear-marked for selective treatment should be augmented, perhaps to about 20% of a similar future population.

* * *

The predictive effectiveness of high school speech grades may be capsulized in this way: The higher the average high school speech grade, the higher the grade earned in Speech 1. This tendency seems to be particularly true of those who had had one semester of high school speech.

Whether a student had one semester or two semesters of high school speech seems not to be of predictive value, since no significant differences were found.

Generally, it may be predicted that if a student earned an A in one semester of high school speech his chances seem to be 81.4% of getting an A or B in Speech 1. Even those students who earned a B or C in high school speech seem to have a 50% chance of earning an A or B in college Speech 1.

The grade earned in high school speech (one semester) may not be as strongly predictive of success in Speech 1 as the other variables examined. High School Rank, ACT English, and ACT Accumulative scores were demonstrated to be, but it is a factor which may not be discounted.

Since 196 students (or 27.6%) of the total population of 709 had had high school speech for one semester, and since it has been predicted that of this number 81.4% of those who received A in high school speech will

earn an A or B in college Speech 1, then the number of students ear-marked for selective handling should once more be increased.

The predictive effectiveness of Academic Interest was found in this study to be nil; therefore, non-predictive.

* * *

All in all, when all the factors and variables brought out in this study are considered together, it may be that as many as 200 of 709 or up to 28% of such a population as this one may be selected for whatever special processing seems desirable.

* * *

The net result of this investigation provides some important basic information which may serve as guide-lines for the future.

Generally, it may permit this University to service the Introductory Speech course in a more sound manner, both academically and economically. It may permit the Department of Speech to experiment with plans for servicing more students better with little or no increased costs.

Such knowledge may provide a more sound basis for experimentation academically: in the teaching process, in handling greater numbers of students per section, in accelerating sections. It should certainly lead to a more meaningful system of advanced placement, exemption, and selective registration than has previously existed.

Consequently, such information may provide a more sound basis for experimentation economically: in terms of use of student time, instructor time, and facilities.

Recommendations for Further Study

Many more studies of this kind should be made. Not only should this study be repeated, perhaps on a larger population, (perhaps on two semesters) to validate the predictive effectiveness of the variables analyzed here in re success in college Speech 1, but needed refinements should be made.

This study was gross and basic in many ways; many distinctions were not made. Greater sophistication in the accumulation of the data and its analysis are urgently needed. There are many questions, answers to which are necessary. Some of the questions suggested for future research are:

What of freshmen alone? (No distinction was made in this study as to freshmen, sophomores, juniors, or seniors).

Would a first semester group of freshmen taking Speech 1 reflect findings similar to those attained in this study? What of sophomores? Juniors? Seniors? What of a possible "maturity" factor?

Would there be any differences in predictive values attained between a first semester group and a second semester population? (Both of total groups taking Speech 1 and of freshmen only).

What of male and female differences? Would predictive values be discovered more pronounced for women than for men? Or would they be comparable?

What of adding more and finer information to the student registration cards so that the predictive effectiveness of added perhaps more sophisticated variables may be determined, such as speech experience inventories, speech attitude scales, speech-fright analyses, critical thinking measures, etc.